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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,339	09/16/2005	Grant Stuart Richardson	41577/314121	8890

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JOHN S. PRATT, ESQ
KILPATRICK STOCKTON, LLP
1100 PEACHTREE STREET
ATLANTA, GA 30309

EXAMINER

DIXON, ANNETTE FREDRICKA

ART UNIT	PAPER NUMBER
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3771

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06/27/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/529,339	Applicant(s) RICHARDSON ET AL.	
	Examiner Annette F. Dixon	Art Unit 3771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to the amendment filed on April 10, 2008. Examiner acknowledges claims 1-14 are pending in this application, with claim 1 having been currently amended and claims 15 and 16 having been cancelled.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 10, 2008 has been entered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-6, 8, 9, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Warncke (3,680,555).

As to Claim 1, Warncke discloses a valve assembly in a respirator (Figures 1 and 2) comprising a valve body (the combination of elements 7 and 26) having a outlet portion (7) and a valve inlet portion (26) which together define a valve cavity (30) for a valve mechanism (29) permitting gas flow from the valve inlet portion (26) to the valve outlet portion (7), an air purge means comprising a purge inlet (defined by the space available in the movement of the valve mechanism 29 to a flexed position enabling the flow of fluid through 33) connectable to an air pressure supply means, and an air purge outlet (defined by the space available in the movement of the valve mechanism 29 to a relaxed position, as seen in Figure 2, enabling the flow of fluid from 33 to the atmosphere) and an air deflection means (the upper semicircular valve seat wherein the valve mechanism rests during the flexed position) in which the deflection means is specially arranged relative to the valve mechanism (29) and the purge outlet (defined by the space available in the movement of the valve mechanism 29 to a relaxed position, as seen in Figure 2, enabling the flow of fluid from 33 to the atmosphere) so that, in use, air exiting the purge outlet (defined by the space available in the movement of the valve mechanism 29 to a relaxed position, as seen in Figure 2, enabling the flow of fluid from 33 to the atmosphere) and incident the air deflection means provides a curtain of air (defined by the space between the valve mechanism 29 and the upper valve body portion 7) over the valve mechanism (29) so as to inhibit exhaled and ambient air from flowing into the respirator, and in which the air purge means is configured so that the curtain of air is continuous when the purge inlet is connected to the air pressure supply means and the air pressure supply means is activated.

As to Claim 2, Warncke discloses the valve has an annular structure and thus has a cylindrical shape. (Column 3, Lines 43 thru Column 4, Line 15).

As to Claim 3, Warncke discloses the valve inlet portion (26) provides a seat (27) for the valve mechanism (29).

As to Claim 4, Warncke discloses the purge inlet and outlet are associated with the valve inlet portion. Specifically, the operation of the purge inlet and outlet are directly related to the movement of the valve mechanism (29) within the valve inlet portion (26), as the movement of the seat (27) changes the ability of the valve mechanism (29) to purge. (Figure 2).

As to Claim 5, Warncke discloses the air deflection means (the upper semicircular valve seat wherein the valve mechanism rests during the flexed position) is associated with the valve outlet portion (7).

As to Claim 6, Warncke discloses the purge outlet (defined by the space available in the movement of the valve mechanism 29 to a relaxed position, as seen in Figure 2, enabling the flow of fluid from 33 to the atmosphere) comprises one or more bores or channels (31) in an upper surface of the valve inlet portion (26).

As to Claim 8, Warncke discloses the air deflection means (the upper semicircular valve seat wherein the valve mechanism rests during the flexed position) comprises a embossment on an inner surface of the valve outer portion (7). As seen in Figure 2, the portion of the valve (7) inwardly protrudes to form a resting area upon which the air deflection means enables the valve mechanism (29) to rest.

As to Claim 9, Warncke discloses the outlet portion (7) is associated with a dead-space protection member comprising an air guide means (28). The operation of the valve as discussed in Column 3, Lines 55-67 addresses how the air is guided around the valve mechanism (29) thus resulting in a slight overpressure.

As to Claim 14, Warncke discloses the valve mechanism (29) comprises a membrane. (Column 3, Line 46).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Warncke (3,680,555).

As to Claim 7, Warncke discloses a valve assembly having a bore in the upper surface of the valve inlet yet does not expressly disclose the bore to taper inwardly towards the valve outlet portion. However, at the time the invention was made the use of tapering of valve openings was known for the purpose of assisting in the flow of gases to a specific point in a laminar profile. Therefore, it would have been obvious to one having ordinary skill in the art to modify to the valve opening to a smoother profile as the Applicant has done. Moreover, it would have been an obvious matter of design choice to make the different portions of the valve of whatever form or shape was

desired or expedient. A change in form or shape is generally recognized as being within the level of ordinary skill in the art, absent any showing of unexpected results. *In re Dailey et al.*, 149 USPQ 47.

7. Claims 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Warncke (3,680,555) in view of Welker (5,769,388).

As to Claims 10-13, Warncke discloses a valve assembly comprising all the recited elements, yet does not expressly disclose the use of a plurality of vanes toward the inlet providing for flow regulation and deflection of airflow within the valve assembly. However, at the time the invention was made the use of the recited elements was known. Specifically Welker discloses the use of a flow diffuser in combination with a valve assembly to assist in the gas flow profiling of the air passing through the valve assembly. Thereby utilizing vanes to control the flow of the air through the valve assembly producing a laminar flow pattern (Abstract). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Warncke to include the particulars of the air deflector, as taught by Welker to enable the flow profile of the air to have smooth and laminar characteristics.

Response to Arguments

8. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Richardson et al. (7,013,891) a valve assembly in a mask with a overpressure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Annette F. Dixon whose telephone number is (571) 272-3392. The examiner can normally be reached on Monday thru Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Justine Yu can be reached on (571) 272-4835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Justine R Yu/
Supervisory Patent Examiner, Art Unit 3771

Annette F Dixon
Examiner
Art Unit 3771

/Annette F Dixon/
Examiner, Art Unit 3771

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